

RESERVE  
PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION

Improvements in or relating to Hammers, Presses and like  
Machine Tools

I, SOLOMON HIRSH SIEFF, a Latvian Subject of 15, Vallance Road, London, N.22, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to hammers presses and like machine tools in which a reciprocating hammer head or tup is slidably mounted in guides provided in the structure of the machine tool.

10 In presswork it is essential that during a pressing operation the working face of the tup should press squarely on the corresponding face of the die to avoid offset loading of the die with resulting deformation of the stamping or pressing and increased wear on the dies.

This fact is not so essential in hammer work but it is obviously advantageous if offset loading is avoided or reduced when producing for example, hammer forgings.

20 Due however to the existing designs of machine tools of the above type it is impossible to machine the guide surfaces in the press or hammer structure with sufficient accuracy to ensure the correct alignment of the tup or hammer head during the working stroke and therefore in press-work it has been found essential to provide a jig or die set for holding the dies, such jigs incorporating accurately machined guides which maintain the dies in correct alignment during a pressing or stamping operation.

35 The use of such jigs greatly curtail the range of work that can be effected on any one press as the size of dies usable in a particular press depends upon the clearance or head room between the press table and the top dead centre position of the working face of the tup, and due to the necessity of providing jigs this clearance is unavoidably reduced with consequent limitations of the die size, and unnecessary restriction of the bearing area of the guides provided in the jigs or die sets.

45 The above results in heavy expenditure

[Price 1/-]

PRICE 2/-

as invariably new jigs have to be designed to suit different dies.

The object of the present invention is to provide machine tools of the type specified in which the disadvantages outlined above are eliminated.

50 A machine tool according to the present invention consists of a tup or hammer head having guide members detachably secured thereto said guides being mounted to reciprocate freely in guide grooves machined in housings which can be secured to suitably machined surfaces provided in the framework or structure of the machine tool.

55 According to one embodiment of the present invention the main structure of the machine tool consists of a single casting having a base plate and two vertical supports, the tup or hammer head being mounted between said supports so that it may be reciprocated freely. The path of travel of the said tup or hammer head is maintained in alignment during the working strokes by guide members attached thereto said guide members operating in grooves machined in housings adapted to be secured to the vertical supports of the machine. Reciprocation of the tup or hammer head is obtained from a connecting rod one end of which is connected to the said tup or hammer head whilst the opposite end is connected to a crank shaft said crank shaft being mounted in bearings mounted in hearings provided at the upper ends of the vertical supports.

65 The crank shaft can be driven in the usual manner by a constantly driven pulley, engagement of such pulley with the crank shaft being obtained as desired by an operator by means of a manually operated lever or pedal.

70 According to this embodiment the guide members are in the form of steel bars of circular section and are adapted to be secured by means of socket head screws or

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